

IN THE CLAIMS:

Claim 1 (Original) A biologically inactive metal interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate convex surfaces that are generally coaxially located with respect to said axis and which are cylindrical in shape along a substantial length of said device; said upper and lower surfaces having elongate side edges;
- b) said body also having arced concave side surfaces along a substantial length thereof; said side surfaces extending between respective side edges of said upper and lower surfaces; and
- c) said device being formed of a metallic material which is biologically inactive.

Claim 2 (Original) The device according to Claim 1 wherein:

- a) said side surfaces have a semi-circular cross-section in a plane passing perpendicular to said axis.

Claim 3 (Original) The device according to Claim 1 wherein:

- a) both of said side surfaces have a common radius of generation.

Claim 4 (Original) The device according to Claim 3 wherein:

- a) said upper and lower surfaces have a radius of generation

approximately equal to said side surfaces common radius of generation.

Claim 5 (Original) The device according to Claim 1 wherein:

a) said upper and lower surfaces have a helically wound discontinuous thread located thereon.

Claim 6 (Original) The device according to Claim 1 wherein:

a) said thread extends from a rear to near a front of said device.

Claim 7 (Original) The device according to Claim 6 wherein:

a) said thread has a maximum and minimum diameter therealong and said minimum diameter approximately equals said maximum diameter in two forward turns of said thread so as to provide a generally smooth cylindrical surface for anterior bone support.

Claim 8 (Original) The device according to Claim 1 wherein:

a) said device has a front wall; and
b) said front wall includes a centrally located recess adapted to receive a bar for connecting together a pair of said devices.

Claim 9 (Original) The device according to Claim 8 in combination with said bar.

Claim 10 (Original) The combination according to Claim 9 wherein:

- a) said recess has upper and lower walls and;
- b) said bar is sized and shaped to snugly abut against said recess walls when placed in said recess so as to resist relative rotation between said bar and said device.

Claim 11 (Original) The combination according to Claim 10 wherein:

- a) said bar includes a bore and said device includes a threaded bore such that both of said bores align when said bar is received in said slot.

Claim 12 (Original) The combination according to Claim 11 including:

- a) a set screw sized and shaped to be received through said bar bore and threaded to be matingly received in said device threaded bore to operably secure said bar to said device.

Claim 13 (Original) A biologically inactive metal interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate surfaces that are generally coaxially located with respect to said axis; said upper and lower surfaces having elongate side edges; said

upper and lower surfaces each having a thread located thereon;

b) said thread has a generally uniform thread depth except near a front of said device whereat said thread depth is reduced;

c) said body also having inwardly arced side surfaces; said side surfaces extending between respective side edges of said upper and lower surfaces; and

d) said device being formed of a metallic material which is biologically inactive.

Claim 14 (Original) In a threaded interbody device for placement between a pair of adjacent vertebrae having an axis of rotation with upper and lower outer surfaces with threads thereon adapted to operably engage respective vertebrae and a pair of concave cylindrically shaped side surfaces joining respective outer edges of said lower and upper surfaces; the improvement comprising wherein:

a) each of said upper and lower surfaces are sectors of a cylinder substantially along the entire length of said device and have a convex circular cross-section in a plane perpendicular to said axis; and

b) said device is formed of a metallic material which is biologically inactive.

Claim 15 (Original) A biologically inactive non-metal interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate convex surfaces that are generally coaxially located with respect to said axis and which are cylindrical in shape along a substantial length of said device; said upper and lower surfaces having elongate side edges;
- b) said body also having arced concave side surfaces along a substantial length thereof; said side surfaces extending between respective side edges of said upper and lower surfaces; and
- c) said device is formed from a non-metallic material which is biologically inactive.

Claim 16 (Original) The device according to Claim 15 wherein:

- a) said side surfaces have a semi-circular cross-section in a plane passing perpendicular to said axis.

Claim 17 (Original) The device according to Claim 15 wherein:

- a) both of said side surfaces have a common radius of generation.

Claim 18 (Original) The device according to Claim 17 wherein:

- a) said upper and lower surfaces have a radius of generation

approximately equal to said side surfaces common radius of generation.

Claim 19 (Original) The device according to Claim 15 wherein:

a) said upper and lower surfaces have a helically wound discontinuous thread located thereon.

Claim 20 (Original) The device according to Claim 15 wherein:

a) said thread extends from a rear to near a front of said device.

Claim 21 (Original) The device according to Claim 20 wherein:

a) said thread has a maximum and minimum diameter therealong and said minimum diameter approximately equals said maximum diameter in two forward turns of said thread so as to provide a generally smooth cylindrical surface for anterior bone support.

Claim 22 (Original) The device according to Claim 15 wherein:

a) said device has a front wall; and
b) said front wall includes a centrally located recess adapted to receive a bar for connecting together a pair of said devices.

Claim 23 (Original) The device according to Claim 22 in combination with said bar.

Claim 24 (Original) The combination according to Claim 23 wherein:

- a) said recess has upper and lower walls and;
- b) said bar is sized and shaped to snugly abut against said recess walls when placed in said recess so as to resist relative rotation between said bar and said device.

Claim 25 (Original) The combination according to Claim 24 wherein:

- a) said bar includes a bore and said device includes a threaded bore such that both of said bores align when said bar is received in said slot.

Claim 26 (Original) The combination according to Claim 25 including:

- a) a set screw sized and shaped to be received through said bar bore and threaded to be matingly received in said device threaded bore to operably secure said bar to said device.

Claim 27 (Original) A biologically inactive non-metal interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate surfaces that are generally coaxially located with respect to said axis;

said upper and lower surfaces having elongate side edges; said upper and lower surfaces each having a thread located thereon;

b) said thread has a generally uniform thread depth except near a front of said device whereat said thread depth is reduced;

c) said body also having inwardly arced side surfaces; said side surfaces extending between respective side edges of said upper and lower surfaces; and

d) said device is formed of a non-metallic material which is biologically inactive.

Claim 28 (Original) In a threaded interbody device for placement between a pair of adjacent vertebrae having an axis of rotation with upper and lower outer surfaces with threads thereon adapted to operably engage respective vertebrae and a pair of concave cylindrically shaped side surfaces joining respective outer edges of said lower and upper surfaces; the improvement comprising wherein:

a) each of said upper and lower surfaces are sectors of a cylinder substantially along the entire length of said device and have a convex circular cross-section in a plane perpendicular to said axis; and

b) said device is formed of a non-metallic material which is biologically inactive.

Claim 29 (Original) A biologically active bone-based interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate convex surfaces that are generally coaxially located with respect to said axis and which are cylindrical in shape along a substantial length of said device; said upper and lower surfaces having elongate side edges;
- b) said body also having arced concave side surfaces along a substantial length thereof; said side surfaces extending between respective side edges of said upper and lower surfaces; and
- c) said device being formed from a bone-based material which is biologically active.

Claim 30 (Original) The device according to Claim 29 wherein:

- a) said side surfaces have a semi-circular cross-section in a plane passing perpendicular to said axis.

Claim 31 (Original) The device according to Claim 29 wherein:

- a) both of said side surfaces have a common radius of generation.

Claim 32 (Original) The device according to Claim 31 wherein:

a) said upper and lower surfaces have a radius of generation approximately equal to said side surfaces common radius of generation.

Claim 33 (Original) The device according to Claim 29 wherein:

a) said upper and lower surfaces have a helically wound discontinuous thread located thereon.

Claim 34 (Original) The device according to Claim 29 wherein:

a) said thread extends from a rear to near a front of said device.

Claim 35 (Original) The device according to Claim 34 wherein:

a) said thread has a maximum and minimum diameter therealong and said minimum diameter approximately equals said maximum diameter in two forward turns of said thread so as to provide a generally smooth cylindrical surface for anterior bone support.

Claim 36 (Original) The device according to Claim 29 wherein:

a) said device has a front wall; and
b) said front wall includes a centrally located recess adapted to receive a bar for connecting together a pair of said devices.

Claim 37 (Original) The device according to Claim 36 in combination with said bar.

Claim 38 (Original) The combination according to Claim 37 wherein:

- a) said recess has upper and lower walls and;
- b) said bar is sized and shaped to snugly abut against said recess walls when placed in said recess so as to resist relative rotation between said bar and said device.

Claim 39 (Original) The combination according to Claim 38 wherein:

- a) said bar includes a bore and said device includes a threaded bore such that both of said bores align when said bar is received in said slot.

Claim 40 (Original) The combination according to Claim 39 including:

- a) a set screw sized and shaped to be received through said bar bore and threaded to be matingly received in said device threaded bore to operably secure said bar to said device.

Claim 41 (Original) A biologically active bone-based interbody device for placement between a pair of adjacent vertebrae; said

device comprising:

- a) a body having an axis and upper and lower elongate surfaces that are generally coaxially located with respect to said axis; said upper and lower surfaces having elongate side edges; said upper and lower surfaces each having a thread located thereon;
- b) said thread has a generally uniform thread depth except near a front of said device whereat said thread depth is reduced;
- c) said body also having inwardly arced side surfaces; said side surfaces extending between respective side edges of said upper and lower surfaces; and
- d) said device is formed from a bone-based material which is biologically active.

Claim 42 (Original) In a threaded interbody device for placement between a pair of adjacent vertebrae having an axis of rotation with upper and lower outer surfaces with threads thereon adapted to operably engage respective vertebrae and a pair of concave cylindrically shaped side surfaces joining respective outer edges of said lower and upper surfaces; the improvement comprising wherein:

- a) each of said upper and lower surfaces are sectors of a cylinder substantially along the entire length of said device and have a convex circular cross-section in a plane perpendicular to said axis; and

b) said device is formed from a bone-based material which is biologically active.

Claim 43 (Original) A biologically active non-bone based interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate convex surfaces that are generally coaxially located with respect to said axis and which are cylindrical in shape along a substantial length of said device; said upper and lower surfaces having elongate side edges;
- b) said body also having arced concave side surfaces along a substantial length thereof; said side surfaces extending between respective side edges of said upper and lower surfaces; and
- c) said device being formed from a non-bone based material which is biologically active.

Claim 44 (Original) The device according to Claim 43 wherein:

- a) said side surfaces have a semi-circular cross-section in a plane passing perpendicular to said axis.

Claim 45 (Original) The device according to Claim 43 wherein:

- a) both of said side surfaces have a common radius of generation.

Claim 46 (Original) The device according to Claim 45 wherein:

a) said upper and lower surfaces have a radius of generation approximately equal to said side surfaces common radius of generation.

Claim 47 (Original) The device according to Claim 43 wherein:

a) said upper and lower surfaces have a helically wound discontinuous thread located thereon.

Claim 48 (Original) The device according to Claim 43 wherein:

a) said thread extends from a rear to near a front of said device.

Claim 49 (Original) The device according to Claim 48 wherein:

a) said thread has a maximum and minimum diameter therealong and said minimum diameter approximately equals said maximum diameter in two forward turns of said thread so as to provide a generally smooth cylindrical surface for anterior bone support.

Claim 50 (Original) The device according to Claim 43 wherein:

a) said device has a front wall; and
b) said front wall includes a centrally located recess adapted to receive a bar for connecting together a pair of said devices.

Claim 51 (Original) The device according to Claim 50 in combination with said bar.

Claim 52 (Original) The combination according to Claim 51 wherein:

- a) said recess has upper and lower walls and;
- b) said bar is sized and shaped to snugly abut against said recess walls when placed in said recess so as to resist relative rotation between said bar and said device.

Claim 53 (Original) The combination according to Claim 52 wherein:

- a) said bar includes a bore and said device includes a threaded bore such that both of said bores align when said bar is received in said slot.

Claim 54 (Original) The combination according to Claim 53 including:

- a) a set screw sized and shaped to be received through said bar bore and threaded to be matingly received in said device threaded bore to operably secure said bar to said device.

Claim 55 (Original) A biologically active non-bone based interbody device for placement between a pair of adjacent

vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate surfaces that are generally coaxially located with respect to said axis; said upper and lower surfaces having elongate side edges; said upper and lower surfaces each having a thread located thereon;
- b) said thread has a generally uniform thread depth except near a front of said device whereat said thread depth is reduced;
- c) said body also having inwardly arced side surfaces; said side surfaces extending between respective side edges of said upper and lower surfaces; and
- d) said device is formed from a non-bone based material which is biologically active.

Claim 56 (Original) In a threaded interbody device for placement between a pair of adjacent vertebrae having an axis of rotation with upper and lower outer surfaces with threads thereon adapted to operably engage respective vertebrae and a pair of concave cylindrically shaped side surfaces joining respective outer edges of said lower and upper surfaces; the improvement comprising wherein:

- a) each of said upper and lower surfaces are sectors of a cylinder substantially along the entire length of said device and have a convex circular cross-section in a plane perpendicular to said axis; and

b) said device is formed from a non-bone based material which is biologically active.

Please add the following claim.

Claim 57 (New) An interbody device for placement between a pair of adjacent vertebrae; said device comprising:

- a) a body having an axis and upper and lower elongate convex surfaces that are generally coaxially located with respect to said axis and which are cylindrical in shape along a substantial length of said device; said upper and lower surfaces having elongate side edges;
- b) said body also having arced concave side surfaces along a substantial length thereof; said side surfaces extending from near respective side edges of said upper and lower surfaces; and
- c) said body being continuous between said concave side surfaces and between said convex surfaces substantially the entire length thereof.